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TRANSACTIONS OF THE PATHOLOGICAL SOCIETY OF PHILADELPHIA.

March 30th, 1840.

The President, Dr. Gerhard, in the Chair.

On the situation of the Heart—with a plate.

By C. W. Pennock, M. D.

Although the structure of the heart is as well known as that of any organ of the body, yet its precise situation and its anatomical relations rarely receive from the anatomical student that attention which the importance of the subject demands. Of this fact I am daily more and more convinced. Well instructed physicians, unaccustomed to examine the heart *in situ*, and misled by the terms of "the right and left sides," are apt to imagine and assign situations to the different parts of the central organ of the circulation very different from the reality. One of the most general errors is, that of imagining that the ascending aorta and its semilunar valves are placed to the *left* of the pulmonary artery. The most cursory glance at the heart while in the thorax, would correct this error; it would then be seen that the aorta and its valves lie to the *right* of the pulmonary artery. Another mistake consists in supposing that the anterior surface of the heart on the left of the sternum is formed exclusively by the left cavities of that organ. Inspection of the heart in place, would show that a large proportion of this surface is due to the right ventricle.

The experimental researches of Hope, and others, on the heart's action, having settled many of the formerly mooted points on that subject, the diagnosis of cardiac diseases has been rendered much more certain. But to render these physiological researches available in the diagnosis of disease, it is all important that an exact knowledge should be had of the precise situation of the different valves, and of the several compartments of the heart.

Anxious to aid in the investigation of cardiac diseases, it has occurred to me, that a delineation of the heart in its natural position, would not be unacceptable to the profession. This drawing has been executed with great care and exactness by Mr. John Collins, and is now presented to the society, in the hope that it will be found useful in aiding the recollection of the relative situation of the several parts of the heart with those of the thoracic parietes. A word in explanation of the plan by which the drawing has been effected, may not be improper. During the experiments made in company with Dr. Moore, we observed, that the only fixed point of the heart was at the valves of the aorta, and that those of the pulmonary artery being slightly moveable, revolved partially around them. Repeated observation having proved to me that the aortic valves are pierced, if needles be introduced perpendicular to the plane of the sternum, through the middle of that bone opposite the middle of the cartilages of the third ribs,—and that wires passed perpendicularly to the plane of the thorax, half way between the cartilages of the second and third ribs, half an inch from the left margin of the sternum, pass through the valves of the pulmonary artery, we inserted needles at these points, which served as marks and guides, in the delineation of the heart, when we removed the anterior parietes of the chest. By measuring from these fixed points, we were enabled to mark the relative situation of every part of the heart with rigid accuracy.

Upon reference to the drawing, it will be seen, as previously stated, that the *valves of the aorta* lie beneath the middle of the sternum opposite the lower edge of the cartilages of the third ribs; that the *valves of the pulmonary artery* are more superficial, and are placed to the left and about half an inch above. *The aorta* from its origin, curves upwards towards the right, extending between the cartilages of the second and third ribs slightly beyond the right margin of the sternum; at the lower margin of the second cartilage, the arch of the aorta commences and inclines to the left, crossing the pulmonary artery where it lies beneath the left second rib, and ascending as high as the first rib, turns downwards. The *pulmonary artery*, from its origin in contact with the sternum, commences at its left margin, where it is joined by the cartilage of the third rib, bulges at the interspace between the second and third cartilages close to the sternum, and dips beneath the aorta opposite the junction of the second cartilage and sternum.

The right divisions of the heart being most superficial, form the greater part of the anterior surface; the *right auricle* reaches from the cartilages of the third rib, to that of the sixth, and between the third and fourth, where its breadth is the greatest, it extends laterally near two inches to the right of the sternum. About one-third of the right ventricle lies beneath the sternum, the remaining two-thirds being to the left of that bone; the *septum* between the ventricles coincides with the osseous extremities of the third, fourth and fifth ribs, and on the fourth rib, is midway between the left margin of the sternum and nipple. A

small part, say one-fourth, of the left ventricle presents anteriorly; and when the lungs are separated, a portion of the left auricle is visible between the second and third left ribs, two inches from the left margin of the sternum. With the exception of these portions, the whole of the left ventricle and auricle lie posteriorly to the right ventricle; and the entire left divisions, with the exception of a small portion of the base connected with the pulmonary valves of the aorta, lie on the left of the sternum.

The heart being moveable, the tricuspid and mitral valves necessarily change their relative position with the parietes of the thorax, with every change of posture of the body. When examined in the dead body, the normal situation of these valves is as follows: the *tricuspid valve* extends obliquely downwards from a point in the middle of the sternum, immediately below the the third rib, to the right edge of the sternum, at the lower margin of the cartilage of the fifth rib; the *mitral valve* commences beneath the lower margin of the left third rib, near the junction of its cartilage with its osseous extremity, (two and a half to three inches to the left of the sternum,) and runs slightly downwards, terminating opposite the left margin of the sternum, where it is joined by the cartilage of the fourth rib.*

The apex of the heart, when an individual is standing erect, beats between the fifth and sixth left ribs, about two inches below the nipple, and one inch on its sternal side. But as the heart is attached only at its base by the large blood vessels, "the body of that organ is not fixed in relation to the walls of the chest, but hangs in a certain degree loose," and liable to displacement by change of posture, and by the motions of the chest. Hence, the pulsations of the apex are felt at different points of the chest, and the impulse is affected by the stage of the respiratory act. During full inspiration, the impulse of a healthy heart is scarcely perceptible, but upon expiration, and especially, if, at the same time, the body be bent forward, the cardiac pulsations become very forcible.

I have frequently made observations on the influence of position upon the impulse of the heart. During expiration, when the body is lying on the back, the heart beats at the upper part of the left fifth rib, an inch below the nipple, and one inch to the right of it. Lying on the left side, the impulse is felt at the lower margin of the fifth rib, one inch below the nipple, and an inch and a half to the left of it; if the examination be made while lying on the right side, the impulse is rarely felt. When standing, the body being bent forward, the impulse is felt during expiration one and a half inches below the nipple; bending backwards, impulse observed between the fourth and fifth ribs, half an inch below the nipple, and one inch to the right of it; inclining the body towards the left, throws the apex between the fifth and sixth ribs, two inches below the nipple, and one and a half inches to the left of it; while bending towards the right, causes the impulse to be felt two inches on the sternal side of the nipple.

Effusions or tumours in the abdomen by elevating the diaphragm, displace the heart, and cause the impulse to be felt in various unusual positions; within a month, I have made a post-mortem examination of a patient who died from ascites, in which case, the abdominal fluid pressing upon the diaphragm, had driven the apex *to the third rib, one inch above* the left nipple, at which point the impulse was felt during life.

Explanation of the Plate.

The heart is represented with the pericardium removed—the lungs drawn backwards by hooks, leaving its entire anterior surface exposed—the cartilages and ribs in front of it, indicated by dotted lines.

S, Outline of the Sternum.
C, Clavicle.
1, 2, 3, 4, 5, 6, &c., The ribs.
1′, 2′, 3′, 4′, 5′, &c., The cartilages of ribs.
4″, Right and left nipples.
a, Right ventricle.
b, Left do.
c, Septum between the ventricles.
d, Right auricle.
e, Left auricle.
f, The aorta; *f′*, needle introduced through middle of sternum, perpendicular to its plane, opposite cartilages of third rib, passing into the aortic valves.
g, The pulmonary artery; *g′*, needle introduced between the second and third cartilage half an inch to the left of the sternum, (perpendicular to the plane of the thorax,) passing into the valves of the pulmonary artery.
h, Vena cava descendens.
i, Line of direction of the mitral valve; the dotted portion is that part of it posterior to the right ventricle.
i′, Needle introduced perpendicular to the plane of the thorax, three inches from the left margin of the sternum, at the lower edge of the third rib, and passing in the mitral valve at its extreme left.
k, Line of tricuspid valve.
m, *n*, Needles introduced perpendicular to thorax, at points where the dulness of percussion of the heart ceases, and which being projected, pass to the borders of that organ.
o, Trachea.

Note.—By the expression "perpendicular to the plane of the thorax," used in the preceding

* In ausculting the heart, the points mentioned as indicating the situation of the auriculo-ventricular and semilunar valves, are those to which the stethoscope should be applied, in the investigation of the character of the sounds generated at the respective valves.

explanation, is meant, lines passing at right angles to the tangents of the various curved surfaces existing at different points of the chest.

Remarks on the Monesia. By JOSEPH G. NANCREDE, M. D.

To the Editors of the Medical Examiner.

Gentlemen:—With the intention of extending a knowledge of the properties of monesia, and of thus rendering practically useful, to our community, the very interesting paper of Dr. Martin Saint Ange, a translation of which appeared in the last number of your journal, I beg leave, through the medium of its pages, to acquaint the medical profession, that a portion of monesia, recently received from Paris, has been placed in the hands of Mr. F. Brown, corner of Fifth and Chesnut streets, where it can be obtained by those who may wish to prescribe it.

The preparations which have reached me, and which are to be obtained here, are, 1, the aqueous extract; 2, a syrup containing about six grains of the extract to the ounce; 3, a hydro-alcoholic tincture, containing about thirty-two grains to the ounce; 4, an ointment, containing one-eighth of its weight of extract.

While on this subject, I may be permitted to state, that having had in my possession for about a week, this new substance accompanied by the *Gazette Médicale de Paris*, of 19th October, 1839, in which I read Dr. Martin Saint Ange's original paper, and also the *Notices sur le Monesia* by M. Bernard Derosne, to whom is due the credit of having introduced the new article to the notice of the profession, and who, in conjunction with M. O'Henry, has made it a chemical analysis, I naturally felt desirous of being the first on this side of the Atlantic to test the properties of so interesting a remedy.

Accordingly I have exhibited it in five cases; and though it may be premature, in so short a period, to form any positive conclusions, yet I may be allowed to state, that, during the short period of its use in my hands, the medicine has realised the expectations held out by its friends in Paris.

I will merely add for the present, that I have exhibited the extract internally in the form of pills, in three cases, of which the first was diarrhœa, of long standing. Here its tonic and astringent qualities evidently arrested the disease. The two next cases were those of patients labouring under dysmenorrhœa; in both which, the symptoms have been materially improved under its exhibition. The fourth case is one of ulceration of the mouth, involving the tongue, of some week's duration, which I have treated by a solution of one part of the tincture, to five of water, as a local application, for the three last days, I think, with some benefit to my patient. The fifth case, is one of scrofulous ulceration, upon which I have applied the powdered extract twice. As yet, I cannot discover any change for the better.

These cases of the administration of the monesia, in several of its preparations, are recent, the oldest being only of a week's date, yet the results are so far encouraging, as to induce the wish that the American Medical Profession, which has now an opportunity of becoming acquainted with monesia, may fairly and fully test the properties of this new addition to the Materia Medica.

Walnut street, April, 1840.

CLINICAL REPORTS.

PENNSYLVANIA HOSPITAL.

Case of Lithotripsy, cured in five weeks from the first sitting. By Dr. RANDOLPH, Attending Surgeon.

[Reported by J. F. MEIGS, M. D. Resident Surgeon.]

J. E. aged 19, a native of the West Indies, was admitted into the Pennsylvania Hospital, under the care of Dr. Randolph, on the 30th January, 1840. He has been labouring for the last nine years under all the usual symptoms of calculus in the bladder. Upon landing in this country, about three months since, his sufferings were very much aggravated, and he was compelled to apply for medical aid. When first admitted into the hospital, the attacks of pain were very frequent and severe; he could not retain his urine longer than an hour at a time, and was, of course, obliged to rise often in the course of the night.

During the first week after his entrance, Dr. Randolph introduced frequently into his bladder, bougies, in order to accustom the urethra to their passage. He was directed to sit in warm water, when the attacks of pain were violent, and laudanum injections were given from time to time.

The following mixture was prescribed:—

℞.—Sodæ Bicarbonatis, ℥i.
Sacch. Albi.,
P. G. Acaciæ, āā ℥i.
Aquæ Fluv., ℥vi.
Ft. sol. S. c. m., d. in die.

February 8th.—At 10 A. M., twenty-five drops of laudanum were given, and the patient was directed to retain his urine, until half past eleven o'clock, when Dr. Randolph operated with Jacobson's instrument. The calculus, being of medium size, fell into the bas-fond of the bladder, and, in order to seize it, it was necessary to push it into the fundus, after which, there was not the slightest difficulty. The operation was attended with but little pain, the patient making no complaint whatever.

Feb. 13th.—The attacks of spasm have been less frequent and severe since the date of last note; has not, as yet, passed any fragments. Dr. Randolph again operated, and finding some difficulty with Jacobson's instrument, made

use of Heurteloup's, with which he crushed it effectually, and with but little pain.

15*th*.—He passed out, yesterday, a considerable quantity of fine sand, but no large fragments. In the course of the day, a piece too large for expulsion, lodged in the membranous portion of the urethra, and was pushed back into the bladder, this morning, by means of a large sound. In the afternoon, a severe chill came on, followed by considerable fever. An anodyne enema was prescribed, with a tablespoonful of the following mixture to be taken every two hours.

℞.—Mist. Neutralis, ℥vi.
Ant. Tartaris, gr. i.
Ft. sol.

16*th*.—The fever has entirely disappeared; the skin is cool and soft; pulse slow and regular. Mixture to be omitted.

23*d*.—Since the last note there have been no disagreeable symptoms. He has had no pain, excepting when the fragment of stone, before referred to, lodged in the urethra, and this was always readily removed by the introduction of a large sound. To-day the operation was repeated. The stone being rather small, lodges in the neck of the bladder, and, in consequence, the loop of Mr. Jacobson's instrument passes beyond it. Baron Heurteloup's was therefore preferred, and with this, the stone was seized four times successively, and crushed without the slightest difficulty to the operator, or pain to the patient.

March 1*st*.—Since the last note, considerable portions of stone have been voided, some of the size of peas. He has not suffered an attack of pain since the 25th. Instead of being obliged to rise frequently in the course of the night, he can now retain his urine for a space of six or eight hours. His general health is much improved.

Operation repeated to-day with the same instrument, and with like success.

Dr. Randolph operated also on the 7th and 10th of March. During this time, fragments of various sizes were constantly expelled, causing very little pain in their passage, though many of them were angular, with sharp edges.

On the morning of the 14th March, the patient declared himself cured, as he could feel no more stone in the bladder.

Having been sounded carefully by several physicians, it was declared by all that the calculus was entirely removed. He left the hospital in the course of a few days.

Remarks.—Dr. Randolph has usually preferred, in his operations for crushing calculi, the use of Mr. Jacobson's instrument. In cases, however, where the stone is small, as in the one above reported, and where it falls down into the bas-fond of the bladder, he has succeeded more readily and with less pain to the patient, by the use of Baron Heurteloup's. The difficulty which exists in such cases as the above, arises from the fact, that when Mr. J.'s instrument is introduced into the bladder and expanded, the loop passes over and beyond the stone, and it becomes necessary either to withdraw the instrument and push it into the superior fundus, or to turn the front edge of the loop downwards into the bas-fond to seize the calculus. This, when the instrument is of the size commonly used for adults, gives considerable pain, because, as the loop swells gradually from the shaft of the instrument it is necessary to withdraw it a little in order to dip it down behind the neck of the bladder, which causes considerable stretching of the prostatic portion of the urethra. In Heurteloup's, on the contrary, the jaws rise at nearly a right angle from the shaft, and may be turned downward without the same inconvenience as in Jacobson's.

DOMESTIC SUMMARY.

University of Pennsylvania.—During the past session, four hundred and forty-four students were matriculated at this institution. At the late commencement, one hundred and fifty-nine graduates received the degree of doctor of medicine, making, with four at the previous July, a total of one hundred and sixty-three for the current year.

Medical Department of Pennsylvania College. We learn that eighty-seven students attended the recent opening session of this institution, and that degrees were conferred upon twenty-seven graduates.

Albany Medical College.—In this institution, the department of Materia Medica and Pharmacy has lately been changed to Materia Medica and Natural History, and the department of Chemistry and Natural History has been changed to Chemistry and Pharmacy.

Professor D. M. McLachlan has been elected Professor of Obstetrics and Diseases of Women and Children, in place of Professor Bedford, resigned.

Professor E. Emmons has been elected Professor of Materia Medica and Natural History, in place of Professor McLachlan.

And Lewis C. Beck, M. D., of Rutger's College, has been elected Professor of Chemistry and Pharmacy, in place of Professor E. Emmons.

Report of the Obstetric Department of the Philadelphia Dispensary, for First, Second and Third months. JOSEPH WARRINGTON, M. D., Accoucheur.

Forty women have been delivered of 43 children, at or near the full term of utero-gestation—three women having twins.

Twenty-four of the children were boys, 19 were girls. In two of the twin cases, the children were boys, in the other case they were girls.

The average duration of labour in 10 cases, was thirteen hours twenty-four minutes—the extremes being two, and thirty-three hours.

The average time occupied in the spontaneous delivery of the placenta in 16 cases, was nineteen minutes, the extremes being five and seventy-five minutes.

In two cases, the placenta was withdrawn from the os uteri and vagina after it had occupied that situation, in one case one hundred and twenty, and in the other two hundred and forty minutes, being in these instances retained merely for want of expulsive effort.

In another case, the placenta was extensively studded with calcareous deposites, without being accompanied with any feebleness or indisposition of the child.

Of 37 cases of cephalic presentation, 14 were in the first, one in the second, two in the third, one in the fourth, and one in the fifth position of the vertex; no other variety was noted.

The case which presented the occiput in the fifth position, was converted into the first by acting upon the right temple with the finger.

The forceps were applied at the superior strait in one of the cases of third position, and the patient safely delivered, after a tedious and exhausting labour.

In the other case of third position, the delivery was facilitated by converting it into a first position.

In the case of adhesion of the edge of the placenta and a portion of the membranes, the hæmorrhage, after delivery, became alarmingly profuse. Ergot, suspended in brandy, was administered, and as soon as the adhesions were broken up, the complete contraction of the uterus was aided by friction, followed by a graduated compress upon the hypogastric region, and a tight bandage around the lower part of the abdomen.

In one case, severe and extensive peritonitis came on the third day after delivery; this was treated by copious and repeated bleeding, general and local, calomel, Dover's powder, castor oil, and, towards the conclusion, free vesication over the abdomen.

One patient suffered from severe uterine engorgement, with exalted sensibility, which was speedily relieved by free venesection and saline cathartics.

All the women recovered.

One child had hare-lip, which was successfully operated upon at about five weeks old, by Dr. Mütter.

One male child suffered from sabulous deposites in its urethra, and difficulty in urinating. One female child had retention of urine; both required the use of the catheter for several days after birth; they recovered, and all the other children, except one, which died in convulsions on the fourth day after delivery, have done well.

Nine pupils have participated in the "practical instructions," and attendance upon cases conducted by the accoucheur, during the period embraced in the above report.

Extract from the Report of the Surgeon-General of the United States.

"The number of cases of indisposition which have been under treatment by the medical officers of the army, and private physicians, temporarily in the service of the United States, during the last twelve months, was 22,849; 22,248 of which occurred within the past year; 649 being cases that remained of the preceding year. Of the whole number of persons reported sick, 21,940 have been restored to duty, 131 have been discharged the service, 55 have deserted, and 214 have died; leaving, on the 30th of September, 1839, 909 still on the sick report.

From the monthly returns and other reports it is estimated that the aggregate mean strength of the army for the last year, was 8,950; and as the number taken sick during the year, was 22,248, and the aggregate of deaths was 214, it will appear that the proportion of cases of disease to the number of men in service, was as 2½ to 1, or 249 per cent.; the ratio of deaths to the number of men as 1 to 42, or 2 4-10ths per cent.: and the proportion of deaths to the number of cases treated as 1 to 107, or a fraction less than 1 per cent.

From our observations, it is found that the troops which have taken the field from southern stations, have suffered less from sickness, and lost fewer men by disease, since they came into Florida, than while they were stationary at their posts. Nor have the corps from the north suffered from disease and death to the extent that is generally believed.

The reports in this office, from every section of the United States, show this result; and as I am satisfied of the fact, I deem it to be my duty to correct an error of opinion that seems to pervade the country to the manifest injury of the military service.

In further illustration of this subject, the statements marked C and D, are submitted.

The law requiring an examination of candidates for appointment and of assistant surgeons for promotion in the medical department of the army, has been rigidly enforced.

Two junior surgeons whose examination for promotion had been unavoidably deferred, and three assistant surgeons of five years

standing, were ordered to present themselves, and thirty-six applicants for appointment to the medical staff of the army, were invited to appear before the medical board lately in session, at New York. The surgeons and assistant surgeons having undergone a thorough examination upon all the branches of medical science, and received a favourable report from the board, the first two were sustained in their advanced position, and the last three rendered *legally* qualified for promotion. With the candidates for admission into the army, however, the result of the examination was very different. Of the thirty-six who were invited to appear before the board, twelve declined the examination, (two, after having reported to the board,) two were excluded on account of their age, and twenty-two were examined; and of these last, five only were found to possess all the qualifications essential to an appointment.

It may be that we have erected too high a standard of merit—that too much is exacted from the human intellect; we are not conscious, however, that more has been asked, than ordinary talents, a good primary education, and the actual study of the science of medicine, can attain. At all events, some few have reached the highest scale of excellence; and while as many of these choice spirits can thus be secured. as will fill our ranks in each succeeding year, we shall not relax in our requirements upon those who claim to be admitted into the medical staff of the army.

But to account for the humiliating result of the examination on the present and on the former occasions, we have only to look to the system of education which now obtains in the country.

The facilities of acquiring medical knowledge, or rather of becoming professional men, are so great, that many persons are seduced into an attempt to become physicians, without the basis of an education. There are others again, who having received a good primary education, and also passed through a regular classical or collegiate course, (and thereby rendered qualified for scientific pursuits,) are induced from motives of economy and convenience, or with the view of sustaining institutions of their own state, to enter some of the small medical schools, where they cannot possibly have the advantages of anatomical dissection, (the ground work of the profession,) or the means of clinical instructions upon an extended scale. A knowledge of the science of medicine is not, like divinity and law, to be acquired by reading books in the closet, and listening to the reading of a course or two of lectures; it can only be attained by seeing and feeling, in connection with the knowledge acquired from books.

The great multiplication of medical schools in every section of the country, together with the proverbial facilities of becoming licensed practitioners, has so lowered the standard of professional excellence, and so manifestly degraded the medical character of the United States, that the present system will be, it is to be hoped, by a more enlightened public opinion ere long put down. The interests of the country is so much divided by these various institutions, and the patronage to each is consequently so small, that many of our ablest medical men will not accept places in them; were it practicable, however, for the professors to obtain adequate compensation for their services, it would be impossible to find professional men enough of talents and attainments to occupy the several chairs in the innumerable medical schools in every town, village, and cross-road place, throughout our states and territories.

Every officer of this department has been almost continuously on duty, seldom more than two at a time on leave of absence, and in no instance more than four even temporarily absent from duty. The duty in Florida, particularly, has been so irksome as to produce some murmuring from two or three individuals of the corps; but as those persons, generally, grumble the most who have the least cause of complaint, and are least deserving, perhaps, of special consideration, I have not permitted these symptoms of dissatisfaction to interfere with the general arrangements of the department, or to paralyze, for a moment, our efforts to meet the actual requirements of the service.

The service in Florida, to most of the medical officers employed there, has been, indeed, not only irksome but exceedingly laborious and hazardous, many of them having, from the very dispersed state of the troops, to give their attendance to two, three, or more posts and stands; frequently passing from one station to another without an escort, and occasionally under the fire of the enemy.

Among others whose lot it was to perform more than ordinary duty, was the accomplished surgeon, Richard Clark, who, in the height of his usefulness, was lately cut off by disease.

Doctor Clark having been called to a distant post, where the whole command, officers and men, lay prostrate from disease, he at once gave all the energies of his mind and body to the assistance of his suffering comrades; and while thus engaged in administering, by day and by night, to the diseases and to the wants of the sick, he was inhaling the noxious vapours of the place, even to his own destruction. After rendering much assistance, and, indeed, all the aid practicable, he himself sank to the ground, and in a day or two afterward yielded up his gallant spirit, a martyr to the calls of humanity and his country's good.

For this very severe and perilous duty—this extraordinary devotion to their country's cause, (this extra service being peculiar to themselves, and not absolutely to be required of

them,) these officers are entitled to a full measure of praise; and I do not hesitate thus to express the high sense that I entertain of their public services and of their public worth.

In obedience to your instructions, a commission consisting of three medical officers was appointed to examine the banks of the Ohio river, between Pittsburg and Wheeling, and also the shores of Lake Erie, with the view to the selection of sites for marine hospitals. The board having completed the reconnoisance of the country designated, and collected a mass of useful information touching the subject of inquiry, made a detailed report of its proceedings, recommending a change of location for the hospital on the upper Ohio, from Wheeling to the vicinity of Pittsburg, while it sustains the decision of the former board in favour of Cleveland, over Presque Isle, and other points, as the site for the hospital on the shore of Lake Erie. As this report takes a different view of several matters and circumstances from that of the former commission, I beg leave to recommend them both to your attentive perusal and consideration.

From these two able reports and the various statistical and other documents accompanying them, the president will receive all the lights upon the subject of inquiry of which it is susceptible, and can consequently determine understandingly upon the points at which the contemplated hospital shall be erected.

I have, within the past year, with the assistance of one or two medical officers, brought up almost all the back business, which had for years, in consequence of the want of force in the office, been accumulationg upon the department.

The accounts of every officer of the department, and of private physicians in the service of the United States, so far as this office is concerned, have been brought up and closed to the 31st of March; and, with the exception of four or five, whose returns have not come in, even to the 30th of September of the present year.

I have also had prepared, or have now in a state of forwardness, a meteorological register, embracing thermometrical observations, for a series of years, in every section of our States and Territories; also, a report on the vital statistics of the army and the medico-topography of the military stations, extending over a period of twenty years; all which will be ready for the press in a few days, should their publication be authorized by Congress or by the Department of War.

I beg leave, in conclusion, to call your attention again to the fact that the services of another clerk are indispensable to this office. While I have the control of the department I shall keep the business up; and if I cannot obtain the aid of a regular clerk, I must call into requisition the occasional services of one or more of the medical officers of the army.

All which is respectfully submitted.

TH. LAWSON, Surgeon General.

Hon. Joel R. Poinsett, Secretary of War, Washington."

The report of the Surgeon-General is interesting from the valuable statistical matter which it contains, and we are glad that the numerous documents which have been collected by the industry of the army surgeons, are to be made the basis of further publications from the office at Washington.

The rigorous examinations which are now required from all applicants for admission into the army and navy, will undoubtedly exercise a wholesome and efficient influence in stimulating the candidates to become thoroughly conversant with their profession, and if conducted upon a liberal, though rigid footing, may have an indirect effect in elevating the standard of medical education and increasing the requisites for graduation now required by our medical colleges. In this respect, therefore, we, as civilians, are interested in the rigorous examinations of candidates for admission both into the army and navy. The peculiar circumstances in which the military and naval boards are placed enable them to require these conditions. The army and navy need but a small number of assistant surgeons; the candidates are always much more numerous than the places to be filled; hence it is not only feasible, but most expedient, to insist upon a maximum degree of knowledge, and to reject all who do not come up to this level. In medical colleges the case is widely different; they are obliged, for many reasons, to grant diplomas to all who do not fall below mediocrity. The one class is properly enough supposed to be composed of those who can pass an examination much above the average, the others of those who do not fall much below it.

It is perfectly well understood that the requisitions of all medical colleges might be made more severe, and that a longer period of study, and a more rigorous practical examination would ensure a higher average of qualifications. Whether all the medical schools in the United States would choose to exact these qualifications, we do not know, but we are perfectly aware that some of them at least would be more than willing to enforce a higher stand-

ard of medical knowledge, and that as far as these are concerned, the difficulty lies not with the teachers, but with the pupils. It would be absurd to require a course of study which is incompatible with the eager desire of young men to enter upon an active career, and would, therefore, if adopted by one institution, induce the great mass of students to resort to schools where a modicum of knowledge could be obtained at an easier rate, and the ultra rigid schools would soon find themselves without a class, unless they could offer advantages sufficient to induce the pupils to prolong their stay and to extend their circle of studies. These advantages are presented by the army and navy to those who have a taste for the career of military or naval surgeons. A successful candidate obtains, at once, an honourable position, and a comfortable, if a restricted income; he is willing, therefore, to undergo the risks of an examination, knowing that if he succeeds, he will gain many important advantages. Of these candidates for the army, it seems but a small proportion was successful, that is, less than a fourth of them who finally presented themselves for examination, or five in twenty-two. At the last examination for the admission of assistant surgeons into the navy, we understand the proportion of successful candidates was more considerable, twelve in twenty-six.

Both these examinations are regarded as severe, and as justly severe, yet we see that there is no proportion between the number of successful candidates for the two places. The explanation of this is easy; the applicants for the navy, as a general rule, look forward to the situation from an early period of their studies, and prepare themselves expressly for the examination. This is not, we believe, so frequently the case with applicants for the army. We have known several candidates who have prepared themselves for the examination, and have passed it without difficulty; but it is a matter perfectly well understood, that a number of permits are obtained by men either actually engaged in practice, or who have unsuccessfully attempted to obtain civil practice. A physician who has been long engaged in the pursuit of his profession, is rarely able to pass an examination upon elementary details necessary to be learned, but not necessary to be retained. An ordeal of this kind, would, we fear, find many of the army surgeons as much embarrassed as it would other practitioners of equal attainments and skill. An examination requires special preparation, and no one, who is accustomed to a test of this kind, would trust to his own qualifications, unless he had brushed up his knowledge and returned to his elementary studies.

Our efforts, like those of many of our contemporaries, are directed to the upholding of a high standard of medical education. We are neither tempted by interest nor by inclination to depress the scale; and we do not think that the medical schools which require a strict examination are the less attended. On the contrary, we know that the school which is supposed by students to be amongst the most rigorous, is by far the largest in the United States. We even believe that the qualifications for a degree, and the number of branches taught, might be increased to the advantage of the school, and to the great benefit of the pupils, but we know that this increase of requisites must be gradual, and adapted to the habits of our youth, and the wants of the country. We have no doubt that some means will be offered, which will, in time, ensure a higher standard of knowledge; whether these means will be derived from the combined action of professional men, or from a national medical society, must remain for the present unknown. We do not, however, think that the unsuccessful candidates for the army present a fair average of the attainments of our younger professional brethren. Those who have received the benefits of the most thorough and practical course of instruction, for the most part, prefer the chances of civil practice, which, although often unproductive, still offers the chance of a more lucrative, and, to most men, a more desirable situation. Those candidates whose attainments are of a higher order, succeed in their object, and we, as civil practitioners, can meet them in the confident belief, that the fact of their admission into the army or navy is in itself a proof of professional attainments. We object to the inference that has been drawn from the report of the Surgeon-General, but we are glad he is uniting his efforts to our own, in stimulating the students of medicine to look to a higher standard than that with which some of them are now contented. This is, however, a work of time, and can only

be brought about by a judicious and gradual influence.

FOREIGN SUMMARY.

*Four Cases of Aneurism of the Arch of the Aorta.** By John Reid, M. D., F. R. C. P. E., Lecturer on Physiology, President of the Anatomical Society, &c.—I have had occasion, within the last eighteen months, to inspect in the Royal Infirmary the bodies of nine individuals who died from aneurism within the thorax, and I have drawn up accounts of the morbid appearances observed. Four of these cases, from the rarity of their termination, appear to me to be of sufficient interest to be considered contributions to the morbid anatomy of aneurism of the arch of the aorta, and will be found in the following pages nearly in the same form, with the exception of a few verbal corrections, as I have entered them in the Registers of Dissections kept in the Infirmary. Of the five cases not detailed here, in one, the aneurism was placed upon the middle part of the thoracic portion of the aorta, and burst into the œsophagus; a second was placed upon the lower part of the thoracic and upper part of the abdominal aorta, and burst into the left cavity of the pleura; in a third, the aneurism was placed upon the transverse portion of the arch of the aorta, had destroyed by its pressure the continuity of the left recurrent nerve, and produced sudden suffocation by its effects upon the movements of the muscles attached to the arytenoid cartilages of the larynx; in a fourth, the aneurism occupied the upper part of the descending portion of the arch, and proved fatal by its pressure upon the trachea and left recurrent nerve; in the fifth, the aneurism was placed upon the trunk of the *arteria innominata* at its origin, had acquired an immense size, extending upwards as high as the thyroid cartilage of the larynx, and produced absorption of the upper part of the sternum, and of the inner end of the right clavicle. The skin had become livid at two places over the surface of the tumour, the blood had even begun to ooze out, but he died before any external rupture had occurred.

Case 1.—*Aneurism of the Aorta opening into the Right Auricle.*—E. W., aged 35, a tinsmith, and addicted to the use of ardent spirits, was admitted, 5th October, 1839, under the charge of Dr. Peebles. Stated that he had been long subject to fits of palpitation, but dates his present complaints from an uneasy sensation, like something giving way, which he felt in his chest while raising a heavy weight about three weeks before admission. On admission, the arms and chest, but more especially the face and neck, were of a livid colour, very much swollen, and pitted on pressure, and the vessels of the conjunctiva were congested with blood. The lower parts of the body were not œdematous.—He had much dyspnœa, and some cough. Strong impulse of heart, and its apex was felt lower than usual; and a double bellows sound was very audible over the cardiac and sternal regions, particularly over the upper part of the latter. The bruit accompanying the first sound of the heart was more prolonged; the bruit accompanying the second sound was sharper and shorter. The chest could not be satisfactorily percussed from the great œdema; but there was evident extended dulness over the cardiac region, and over the upper part of the sternum. The respiratory murmur was very loud at the upper angle of the scapula. He had some difficulty in deglutition; pulse 90, with a distinct interval between the impulse felt at the chest, and the beat at the wrist; urine scanty and turbid, not coagulable by heat or nitric acid. Had been previously bled, cupped, and had used diuretics and drastic purgatives. Both previous to and after his admission, his intellectual faculties were confused, and his speech was ultimately impaired. It appears, from information furnished by the medical gentlemen who attended him previous to his admission, that the lividity, œdema of upper part of body, and confusion of the intellectual faculties, occurred about the same time. On his admission the diagnosis was hypertrophy of the left side of heart, and aneurism of the aorta, and he was treated by drastic purgatives and digitalis. The œdema and lividity of upper part of body continued, and the dyspnœa became more urgent, and he was unable to assume the horizontal posture for any length of time. No œdema of lower part of body presented itself, except some slight swelling of scrotum. Some dark, circumscribed livid spots appeared on chest. He had delirium at night, and his eyes were bloodshot. Pulse ranged from 90 to 100. He died suddenly on the morning of the 13th.

Sectio Cadaveris, 16*th*.—The difficulty of prevailing upon the friends to permit an inspection of the body will explain its delay. Forty-four ounces of serum were effused into the cavity of the right pleura, and thirty six into the left. Lungs small, compressed by the serous effusion into the chest. They contained a considerable quantity of blood and frothy serum, but were everywhere spongy. The inner surfaces of the serous part of the pericardium were universally and firmly adherent, and the heart was decidedly larger than usual. The left ventricle was evidently somewhat dilated, while the other cavities of the heart were of their usual size. The walls of all the cavities of the heart were considerably thickened, as will appear from the

* Published by permission of the Managers of the Royal Infirmary, and of the Physicians under whose charge the patients were placed.

following measurement. Thickest part of right auricle 4-24ths, and thickest part of left 5-24ths of an inch; thickest part of right ventricle, 9-24ths, (measured where no *columnæ carneæ* were present;) thickest part of left ventricle, 18-24ths; thickness of middle part, 15-24ths; and of apex, 6-24ths. The walls of the heart were paler and more flabby than usual. The aortic and semilunar valves, and the other valves of the heart were healthy, and found adequate when tested by water. The aorta at its origin suddenly dilated, and formed an aneurismatic enlargement capable of easily containing the closed fist. This dilatation was confined to that part of the artery immediately above the aortic opening, termed the sinuses of Valsalva, and as the circumference was placed on a lower plane than the centre, the aortic opening, with its semilunar valves, was situated on the most elevated part of the floor of the aneurismatic swelling. The tendinous portions of the aortic opening were very much thickened, and somewhat elongated upwards; but the aortic orifice was not enlarged. The fibres of the middle coat of the artery which pass between the three projecting extremities of the tendinous festoons, and form the upper termination of the sinuses of Valsalva, were much elongated, and carried considerably upwards at the middle part, so that the upper boundary of the aneurism was bounded by three large segments of a circle, formed by these three bands of fibres. The ascending portion of the arch of the aorta suddenly resumed its original size, and there was a portion of the vessel 1 inch and 4-12ths in length, between the upper edge of the dilated part, and the origin of the *arteria innominata*, of its usual size and appearance, with the exception of being somewhat thickened and roughened on the inner surface. The aneurismatic dilatation chiefly projected backwards and to the right side, pressing upon the anterior edge of the *septum auricularum*, and the neighbouring parts of both auricles, and overlapping and pressing upon the anterior and left part of the right auricle, and stretching the termination of the descending cava over its outer surface. On examining the interior of the auricles and the aneurism, two oval openings, with defined and rounded margins, (one of which was 10-24ths of an inch in length, and 5-24ths in breadth; the other 9-24ths in length, and 5-24ths in breadth,) were observed forming a free communication between the aneurism, the right auricle, and the termination of the superior cava. The cava itself was pervious, but must have been compressed by the aneurism when distended with blood. On the inner surface of the anterior wall of the left auricle, near the anterior edge of the septum, there was a dark projecting part about the size of the point of the finger, which, from the pressure of the aneurism upon it, and the thinning of the walls of the auricle at that part, would soon have given way, and have formed a communication between the left auricle and the aneurism. On examining the inner surface of the aneurism, it was observed that the dilated coats of the vessel were thin and very soft, that they were deficient at some points, and that the sac of the aneurism was there formed by the adherent pericardium, or by the outer surface of the walls of the auricles. The blood was fluid, and there were no fibrinous clots in the aneurism. Abdominal organs healthy. Brain not permitted to be examined.

The old and firm adhesions between the inner surfaces of the serous part of the pericardium satisfactorily explains the unusual size of the aneurism in this patient. It is well known that, when an aneurism forms upon an artery, the internal and middle coats in general soon give way, and the aneurismal sac is then formed by the surrounding cellular tissue. When an artery is surrounded by very little cellular tissue, as is the case with that portion of the aorta enclosed within the pericardium, and with the arteries within the cranium, aneurisms formed upon it seldom acquire a large size; and there can be no doubt, from the appearances observed on dissection in this patient, that the aneurism would have burst into the cavity of the pericardium, and have soon arrested the heart's action at some period previous to the time of his death, and probably before it had burst into the auricle, had it not been for the old adhesions between the inner surfaces of the serous part of the pericardium. The greater thinness of the middle coat, and the larger calibre of the artery at the sinuses of Valsalva, account, as we have elsewhere explained,* for the greater liability of that part of the vessel to be affected with aneurism.

The sensation of something giving way in the chest felt by the patient on lifting a heavy weight, and the train of symptoms which followed, may be referred to some sudden increase of the size of the aneurism; and it is probable that at this time, also, the aneurism burst into the right auricle. The compression of the *cava superior* at its termination, satisfactorily explains some of the most striking symptoms of this case. It explains the great œdema and lividity of the upper part of the body, the congested state of the vessels of the conjunctiva; and, conjoined with the dyspnœa, will also account for the disturbance of the intellectual faculties. It also explains in a very satisfactory manner the effusion of serum into the chest, when none was effused into the abdomen; for as the *vena azygos*, which returns the blood from the inner surface of the parietes of the chest, enters the *cava superior* above the point compressed, the same impediment must have existed to the return of the blood from that vein, as from the other branches of the

* Article Heart, Cyclopædia of Anatomy and Physiology, Vol. ii.

cava superior. If the compression of the *cava superior* had occurred in a more gradual manner, as probably took place in a case of complete obliteration of this vein, which we have elsewhere detailed,* it is possible that the collateral circulation with the *cava inferior* might have been established without any such derangement of the circulation of the upper part of the body having manifested itself. Though all cases of compression of the *cava superior* are not attended by the same effects upon the circulation, yet at the same time it must, we think, be admitted, that, if similar marked symptoms of retardation of the blood in the vessels of the head and superior extremities with œdema, and the effusion of fluid into both sides of the chest, while the lower parts of the body remained unaffected, were presenting themselves, we would be justified in predicting that the *cava superior* would be found compressed.

Case 2.—*Aneurism of the Aorta bursting into the Pulmonary Artery.*—J. H. aged 36, of intemperate habits, was admitted on the 22d of May, 1839, into the Royal Infirmary, under the charge of Professor Alison. Stated that in January last, he began to feel occasional palpitations with dyspnœa, and underwent some medical treatment without relief. About a fortnight before admission, œdema of feet had commenced, and had continued to increase. On admission, the lips and face were pale. Had severe cough, and considerable dyspnœa, and much œdematous swelling of the feet and ankles; and also much enlargement of abdomen. There was considerable dulness on percussion over the cardiac region, and also over the lower part of the left scapula. The heart's action was irregular in force, and a bruit accompanied both sounds, but particularly the second, which was prolonged. The respiration was rather faint in the lower part of both sides of the chest, and was accompanied with subcrepitating râle; pulse small and weak; has occasional vomiting and sense of constriction in the epigastric region; micturition scanty and frequent; urine coagulable by heat and nitric acid; bowels costive. Took diuretics and antispasmodics without much relief to the symptoms. On the 5th June, it is reported that he feels, occasionally, as if he were going to faint; and has sense of uneasiness in the epigastrium; urine, from nineteen to twenty ounces daily. 19th. More dyspnœa last night; œdema of scrotum increased; cough continues; urine scanty. To take gtt. i. of croton oil, and two grains of hyoscyamus to be repeated. 24th. Has had drastric purgatives, (elaterine and gamboge,) which produced several watery stools, which were followed by a considerable diminution of œdema of scrotum and legs. 25th. A short time after noon, the dyspnœa became suddenly much increased, the lips became livid, the pulse feeble, and he died during the night.

Sectio Cadaveris.—Eighteen ounces of serum in the cavity of the abdomen; fifty-two ounces in the two sides of chest; and eight ounces in the cavity of the pericardium; heart considerably increased in size; right side of heart full of blood, chiefly fluid; right auricle considerably distended, without diminution of the thickness of its walls; right ventricle rather larger than usual; its walls somewhat increased in thickness, and much firmer than usual; left ventricle considerably dilated, without any increased thickness of its walls; mitral valve healthy. Two of the semilunar valves were elongated, and when thrown inwards, projected downwards into the upper part of the ventricle, and thus lay on a lower plane than the third valve, rendering them inadequate when tested by water. On the posterior and left side of the aorta, immediately above the semilunar valve, there was an aneurismatic swelling about the size of an orange, which projected backwards, and pressed upon the left auricle, and also partly lay on the right side of the aorta. On slitting up the pulmonary artery, a ragged transverse fissure was observed in the coats of the pulmonary artery 1 inch and 3-10ths in length, and commencing 1½ inch above the origin of the vessel from the right ventricle. This fissure formed a communication between the aneurismatic sac and the pulmonary artery. The coats of the aorta were thickened and irregular on the inner surface. Liver rather larger than usual, and granulated on the surface; and the cut surfaces presented a highly mottled appearance. The kidneys were slightly mottled by yellow deposit in the cortical portion; stomach much congested in the splenic extremity. Brain healthy.

From the appearance of the communication between the aneurism and the pulmonary artery in this case forming a narrow ragged fissure, it is probable that the pulmonary artery had given way a few hours before death; and at this time the dyspnœa had become suddenly increased with augmented lividity of the face.

Case 3.—*Aneurism of the Aorta communicating with the Pulmonary Artery.*—G. F. aged 60, was brought in a moribund state into the Clinical Ward under the charge of Professor Graham, and died shortly after admission. No accurate account of the previous history of this patient could be obtained; but it appears that he had been seen by a physician in his own house, a month before he was brought to the infirmary; and he then evidently laboured under hypertrophy of the left side of heart, and had considerable dyspnœa.

Sectio Cadaveris 36 *hours after death.*—Some serous effusion in the cavity of the paricardium. The right side of the heart was distended with clots of blood, chiefly decolorized. The cavity of the left ventricle was con-

* No. 122 of this Journal.

siderably enlarged, with hypertrophy of its walls, and its apex projected an inch at least beyond that of the right ventricle. The lips of the mitral valve contained some thickened and hard spots at their fixed margins; but they were not shortened, and the auriculo-ventricular opening was not dilated. Several soft irregular warty excrescences adhered to part of the inner surface of the posterior and left semilunar aortic valves, and prevented their close approximation, though the valves themselves were not shortened. A few small warty excrescences were also attached to the aortic tendinous ring, immediately below the fixed margins of the semilunar valves. The ascending portion of the arch of the aorta was somewhat dilated, and presented numerous yellowish and slightly elevated spots on its inner surface. The part of the aorta from which the brachio-cephalic arteries arose, was nearly of its usual size, while it became suddenly dilated to about three times its usual calibre immediately beyond the origin of the left subclavian, and again assumed its natural size about an inch above the point where it passes behind the diaphragm. From the upper and right side of this dilated part of the descending portion of the arch, a small infundibuliform aneurismatic pouch, rather more than an inch in length, projected forwards and to the right side, and connected itself to the left branch of the pulmonary artery, about a quarter of an inch beyond the bifurcation of the pulmonary artery, into its left and right branches, so as to form a communication between the upper part of the dilatation and the left pulmonary artery. This infundibuliform aneurismatic pouch, at the part where it communicated with the dilated portion of the aorta, would have contained the point of the thumb, while the part which opened into the left pulmonary artery was not larger than the carotid or subclavian. The orifice of the opening into the left pulmonary was somewhat rounded, but at the same time irregular and fringed at the edges. The inner surface of the pulmonary artery presented several yellow spots in the immediate neighbourhood of this opening; and there was a small number of similar spots, but more scattered, placed a little above the pulmonary semilunar valves. At the upper part of the dilated portion of the descending aorta, the coats of the vessels were but little altered from their healthy appearance; but there were several yellow and calcareous deposits on the inner surface of the middle part. The lower lobes of both lungs presented each a circumscribed dense portion somewhat less than a pigeon's egg, (pulmonary apoplexy:) they were of a dark-red colour, and one of them contained a little puriform matter in its centre. Another dense portion nearly of the same size as those just described was found in the upper lobe of left lung, and was of a light brownish yellow colour. The liver was very pale, and somewhat resembled the fatty liver in its appearance; slight yellow granular deposit in the cortical structure of the kidneys. The spleen was larger and considerably firmer than usual.

The communication between the aorta and pulmonary artery in this case, exactly occupied the position of the *ductus arteriosus* in the fœtus. We believe, however, that the communication did not arise from the *ductus arteriosus* continuing pervious, from the circumstance that there was an aneurismatic dilatation of the aorta present at the point of communication; and the opening into the pulmonary artery was irregular and ragged, and did not present the smooth and rounded orifice of one artery branching off from the trunk of another. It may be difficult to decide whether this communication was or was not formed by the *ductus arteriosus* opened up, and somewhat altered by the presence of an aneurismatic dilatation on the aorta; but there can be no doubt that it lay exactly in the position of the impervious cord left in the adult by the obliteration of that vessel.

The parts exhibiting the three aneurisms of the aorta, and the parts into which they burst, detailed in the previous cases, as well as another case, which also occnrred in the Infirmary, of an aneurism of the aorta communicating with the pulmonary artery by two pretty large openings, related by Dr. Henderson in No. 127 of this Journal, are preserved in the University Anatomical Museum.

Case 4.—*Aneurism of the Aorta bursting externally.*—J. P. aged 31, a mason, of temperate habits, was admitted, 7th August, 1839, under the charge of Dr. Shortt. Stated that, about six years ago, he began to complain of pain behind the upper part of sternum; that about twelve months after this, a tumour about the size of a nut presented itself near the sternal end of right clavicle; and that he has been occasionally troubled with dyspnœa, but not with palpitation. On admission there was a pulsating tumour, rising and falling with the systole and diastole of the heart, placed at the junction of the right clavicle with the sternum. The tumour was of a pyriform shape, projected about three inches in front of the sternum, and was about three inches and a-half in circumference. There was a loud bruit heard over the tumour, and a bruit also accompanied the sounds of the heart. Impulse of the heart strong, and felt below the sixth rib; complained of some pain in the region of the tumour. Of an athletic form of body, and general health good. Pulse 72, full and throbbing; no dyspnœa when quiescent, and appetite good; was ordered to be bled, and to take digitalis and colchicum. The tumour continued to increase in circumference, and there projected from its anterior surface a smaller tumour, measuring about three inches in circumference, and was

prolonged outwards two inches beyond the surface of the broader tumour placed below. The pulsation was less strongly felt in the projecting portion than in the broad part of the tumour, but the skin covering the apex of it became first livid, and then of a dark-colour, and presented the appearance of incipient sloughing. On the 3d of September some oozing of blood took place from the apex of the projecting part. On the following day about two ounces escaped; and on the afternoon of the 4th, a sudden rush of arterial blood took place when he was straining at stool, and he soon ceased to breathe. The heart continued to beat for a few minutes after the respiration had ceased, and about four pounds of blood (to judge by the eye) had escaped.

Sectio Cadaveris, 6th.—On opening the thorax, a large aneurismatic dilatation was found in the anterior mediastinum. This dilatation was formed by the aorta, and included all that part of the vessel placed between its origin from the heart, and where it lies on the fourth vertebra. The most dilated part was near the origin of the *arteria innominata*, and would readily have contained two fists. The walls of this dilatation were every where formed by the coats of the artery, except at the part behind and to the right side of the sternum. The middle coat of the artery was much thickened, and contained several calcareous plates at different parts. There was a rounded opening in the walls of the sac, which passed partly through a notch in the upper and right side of the sternum, and partly through the interval between the sternum, first rib, and clavicle. This opening admitted the passage of three fingers, and communicated with the aneurismatic tumour, which had appeared externally. The walls of the external tumour were formed by the anterior surface of the sternum, which was bare and rough, by cellular tissue, and by the skin. A firm fibrinous and decolorized clot, about a quarter of an inch in thickness, occupied the apex of the external tumour, and by the edges of this the blood had escaped. The internal tumour was partly occupied by a large soft dark-coloured coagulum. The left ventricle of the heart was very considerably dilated and hypertrophied. The semilunar aortic valves were shortened, thickened along their margins, and were inadequate. Lungs contained some serum, and were not particularly pale, some coagulated blood in heart. Liver and intestines pale; kidneys slightly granular.

This aneurism, though large, produced no dyspnœa under moderate exertion, and no dysphagia, from the circumstance that it projected forwards and not backwards. It is much rarer for aneurisms of the aorta to burst externally than what we would at first imagine. Some of the most experienced practitioners in this city have not witnessed such a case.

Ed. Med. and Surg. Journ. Jan., 1840.

Painful Cicatrix with Exostosis of the Metatarsal Bone of the great Toe.

St. Bartholomew's Hospital, Sept. 1839.—Mr. Stanley removed the great toe with its metatarsal bone, from a man aged 30, for a disease of which the following is a brief history. Three years ago, while working on a railroad, he received an injury by which all the toes, except the great toe, were torn away from the left foot, and the soft parts on the inner side of the right foot were severely lacerated. Part of the cicatrix which remained after the healing of the laceration of the right foot, was seated immediately beneath the head of the metatarsal bone of the great toe, so that it was constantly exposed to the chief pressure in walking. The consequence was, that an ulcer formed upon the cicatrix, and though often healed, and apparently soundly, it as often broke out again when he endeavoured to take exercise. After several such alternations of healing and returns of the ulceration, the parts had become so excessively tender that even when the sore was cicatrized he was unable to bear any pressure upon the foot. The parts around the cicatrix also enlarged; the swelling extending towards the sole, and appearing to proceed chiefly from the head of the metatarsal bone of the great toe. After remaining for a considerable time in the hospital without any prospect of being by any other means relieved from the pain of the cicatrix, and the constant liability to fresh ulceration, the man consented to the removal of the toe and its metatarsal bone. The operation was accordingly performed, the incisions being so directed that the cicatrix that would follow might be placed as much as possible towards the upper surface of the foot, where it would receive the least pressure in walking. The wound healed soundly, and the man a short time after left the hospital, walking well and firmly, and without any prospect of future inconvenience.

On examining the parts after their removal, the chief bulk of the swelling was found to consist of a growth of osseous matter, of a firm cancellous texture, from the distal head of the metatarsal bone, just below and to the inner side of its articulating surface. The surface of the osseous growth was expanded, flattened, and rough; the surface of the adjacent part of the bone was also irregular, and the soft tissues, including the painful cicatrix, which was situated directly beneath the exostosis, were firmly adherent to it. The cartilage was removed from the articular surface of the metatarsal bone, and the phalanx of the toe had been thrust upwards by the tumour, so that it was nearly dislocated, and its axis formed nearly a right angle with that of the metatarsal bone.

Unusual Arrangement of Parts observed in the Dissecting Rooms.

1. The left subclavian artery, in the body of a male subject, passes in front of the scalenus

anticus muscle. The right subclavian has its usual relations, and each gives off its usual branches; but the right vertebral artery is considerably smaller than the left. The other main arteries have their usual arrangement.

2. In a female subject the right vertebral artery is given off from the right carotid, which is the first great artery that arises from the arch of the aorta. Next to it arises the left carotid, which is so near to it that they almost appear to have a common origin. Next to the left carotid arises the left subclavian artery, which pursues its usual course and gives off its usual branches; and behind, and a little to the left of it, arises the right subclavian, which, coming off from the back of the arch of the aorta, passes to the right and upwards, crossing behind the œsophagus towards the first rib, over which it passes behind the scalenus anticus, giving off in its way all its usual branches except the vertebral, which is supplied by the right common carotid. This right vertebral is smaller than the left; it is given off by the carotid rather more than an inch from its origin, and like the left, passes into the foramen of the transverse process of the sixth cervical vertebra.

3. In the same subject there is a peculiar arrangement of the tendons about the shoulder-joints. On each side the long tendon of the biceps flexor cubiti divides, just below the level of the tuberosities of the humerus, into two portions, of which one, the smaller, is attached to the bottom of the bicipital groove between the tuberosities, and the other, the larger passes over the joint on the outside of the capsular ligament, to be attached to the upper edge of the glenoid cavity. The tendon of the pectoralis minor on each side, instead of being attached to the coracoid process, divides into two portions, which pass through an aperture in the coraco-acromial ligament, and of which one is lost on the upper and outer part of the fibrous capsule of the joint, near its attachment to the neck of the humerus, while the fibres of the other are continued to the upper margin of the glenoid cavity.

4. The arrangement of the tendons of the bicipites, in this case, is similar to that described by Mr. Stanley, in the lectures at the College of Surgeons, in which he showed that this is a permanent condition of that structure, which is normal in the early embryo. It is probable that in many of those cases in which the tendon of the biceps appears to be attached to the bicipital groove, and which are commonly supposed to be the consequence of a rupture of that tendon, it really passes in a thin band over the outside of the joint to its usual attachment, on the edge of the glenoid cavity. Such cases are of course to be regarded as original malformations, rather than as the results of injury or disease, of which they rarely present any coincident effect.

Perforating Ulcer of the Stomach.

Nov. 22d.—The man who was the subject of this disease walked up to London a fortnight ago, from a distance of two hundred miles, and had since that time been engaged in very laborious work, without any apparent inconvenience. He was extremely robust and active, and was not habitually intemperate. Last evening, at 9 o'clock, he was suddenly seized with the most acute pain in the abdomen, which was most intense around the umbilicus, and was somewhat increased by pressure. A respectable surgeon, who was immediately called in, administered some aperient medicines and other means, but the patient continued to sink rapidly during the night, and died at ten o'clock this morning, as he was being carried into one of the wards.

At the post-mortem examination, the abdominal cavity was found to contain a considerable quantity of air, and about two quarts of dirty yellowish fluid, with castor oil floating on its surface. The intestines were streaked with red, and very vascular on their peritoneal surfaces, and their walls were slightly adherent together by soft recently effused lymph. This peritonitis was found to have been caused by the effusion of the contents of the stomach through an ulcerated aperture in its walls. The ulcer was of an oval form, about half an inch in diameter, with sharp abrupt edges, as if it had been cut out. It was situated about an inch to the right of the œsophageal opening, just in front of the attachment of the gastro-hepatic omentum; the cellular tissue, for some distance around it, was thickened and brawny, and slightly puckered, like that of a cicatrix. There was another ulcer very near the preceding, of rather less size, but of the same form and characters, which had also penetrated all the coats of the stomach, effusion being prevented only by the adhesion of its edges to the anterior surface of the pancreas. In every other respect the man's body presented the appearances of perfect and very robust health.

A case in many respects similar to this occurred in the course of the summer. A young woman who up the moment of the commencement of her severe illness had considered herself in perfect health, and who was very robust and muscular, was suddenly seized while in bed with most acute pain in the abdomen, and other symptoms of severe peritonitis. Various means were employed without the least affect, and she was brought in a dying state to the hospital, where she soon expired, twenty hours from the first seizure. With all the appearances of acute peritonitis there were found two ulcers of the stomach, about half an inch wide, of a circular or oval form, with hard, sharp, and abrupt edges. One of them had completely perforated all the membranes of the stomach, and had permitted the escape of its contents through a wide aperture; the other had also penetrated all the membranes, but it

was closed behind by its adhesions to the pancreas. Both these ulcers were situated near to the œsophageal opening, and the tissues around them were thickened and dense.

Cases similar to these are recorded by Dr. Abercrombie, who particularly remarks on the singularity of their occurrence, in persons who appeared just previously to enjoy perfect health. They are also of some interest, from the suspicion which they may excite, as they did in both these cases, that the patients had died by some unfair means. Such a suspicion is at once removed by the post-mortem examination, which exhibits all the appearances not of an acute but of a chronic inflammation of the stomach, the tissues of which are found thickened and brawny, hard, and without any increase of vascularity. The abrupt even edges of the ulcers also are widely different from the softened ragged margins of those which are produced by any corrosive substance.—*London Med. Gaz.*

Therapeutical action of Prussic Acid.—In our last Number we related the results of some experiments, which have recently been made in the French hospitals with Prussic acid. The following contains a summary of M. Bequerel's researches:—

In diseases of the heart the use of Prussic acid was more injurious than useful, as it sometimes increased the distressing symptoms.

The anhydrous acid, prepared after the manner of Gea-Pessina, is the only one which should be employed medicinally: it keeps for a long time without being altered, and its action is uniform.

It should be given in a mixture of four ounces of water without sugar, and by spoonfuls. Uniformity in the strength of the doses is thus obtained.

When given in the dose of from 8 to 12 drops this acid acts locally, and with intermissions; but when carried to 16 or 20 drops, and continued for a certain time, its action is general and not intermittent: it is essentially hyposthenic.

In larger doses than those just mentioned Prussic acid is apt to occasion certain accidents, the chief symptoms of which consist in a violent excitement of the nervous and circulating systems.

It has no influence on the progress or symptoms of any disease; but in some nervous affections it may change the progress, intensity, and nature of the symptoms, without bringing about a complete cure.—*Lancet, from Gaz. Med. de Paris*, Jan. 13, 1840.

Aneurism of the Aorta, with and without Bruit de Soufflet.—Dr. Corrigan said that he exhibited these specimens together, because they agreed with one another in their pathological characters, with one single but most important exception. Both were examples of aneurisms of the ascending aorta; one of them had been taken from the body of a woman named Hamilton, the other from the body of a man named Dunn. They agreed in their size, situation, pathology, and even in their diagnostic signs, with this exception, that in the case of Dunn the bruit de soufflet was never absent, while in that of Hamilton it was never present. In the case of Dunn the aneurism involved the mouth of the aorta; in the case of Hamilton it did not, there being a portion of the vessel, about an inch and a half from its mouth, perfectly free from disease. In Dunn's case, too, the heart was very large; in Hamilton, it was below the natural size. In Hamilton's case the valves and the commencement of the aorta being sound, and the action of the heart weak, there was no vibratory motion communicated to the parietes to give rise to bruit de soufflet; but in Dunn's case there was a flaccid state of the heart, with disease of the aortic valves. Dr. Corrigan thought that, as a general rule, bruit de soufflet would be be found in all cases where the aortic valves were diseased, and that it would be absent where they were sound.—*Dublin Journal of Med. Science.*

Œdema of the Larynx.—Mr. Adams also exhibited a specimen of œdema of the larynx, taken from the body of a man, who, for twelve months previous to his death, had suffered from œdema of the lower extremities; about a week since, the scrotum and the penis became œdematous, the eyelids began to swell, and he got symptoms of effusion into the chest. The day before his death, he mas attacked with swelling of his neck, which became quite cilindrical, and respiration was greatly impeded. On the following morning, while endeavouring to swallow his breakfast, he fell back suddenly and expired. The cause of sudden death was found to be seated in the larynx; the submucous tissue about the glottis was distended with a yellowish serous effusion. It afforded a good specimen of the serous effusion of Bayle.

Dublin Journal.

Hernia on the Left Lung following a wound of the Thorax, cured by pressure with a Truss.—P. Valade, æt. 29, admitted into the hospital of La Charité, on the 21st July, 1839, under the care of M. Velpeau, on account of a small elastic swelling which had then existed for some time upon the front of the left breast. This patient, who has lately served in the army which occupies Algiers, stated that several months since he was wounded in a duel, the point of his antagonist's sword entering the left breast a little above and to the side of the nipple; he lost, at the time, a very large quantity of blood, and, being taken to the military hospital, remained under treatment for some weeks. The wound, which was of very small dimen-

sions externally, soon healed, but not long after his discharge from the hospital, having quitted the service, and resumed his former occupation as a carpenter, a swelling begun to make its appearance underneath the cicatrix, and has gradually increased in its size up to the present time. The tumour only protrudes when he coughs, or makes any violent muscular exertion, when it is immediately puffed up to the size of a large egg. There can be no doubt that the lung had become adherent to the internal surface of the cicatrix, since it is impossible to effect the total reduction of the protrusion.

July 24.—The principal portion of the protruded lung has been reduced, and a truss has been applied with the intention of preventing its egress.

30.—The hernia still protrudes when the truss is removed, but it does not appear to be as large as before.

Aug. 11.—The employment of the truss appears to have answered the intentions with which it was had recourse to, since, when the pressure is removed, the hernia no longer protrudes.

Discharged cured.

In his clinical lecture upon this case, M. Velpeau stated that he had seen several instances of hernia of the lung occurring independently of any wound of the chest, and alluded to one, in particular, which existed in a young woman, where the protrusion had taken place in the subclavian region of the neck, and mounted up nearly as high as the border of the thyroid cartilage.—*Lancet.*

Arabic mode of treating the Venereal Disease.—This mode of treatment was communicated more than 150 years ago to the medical officers of the Marseilles' Hospital, by a Spanish apothecary, and is still employed there in all cases of virulent syphilis which resist the ordinary methods. The Arabic mode consists in the use of pills, of an opiate, sudorific drinks, and a peculiar regimen, called the *dry diet.* The pills are thus composed :—

Metallic mercury, Deuto-chloride of mercury, of each, ½ ʒ ;
Senna, Agaric, Root of Pyrethrum, of each, one ʒ ;
Honey, q. s.

The vegetable substances are reduced to powder; the metallic mercury is carefully rubbed up with the deuto-chloride, until the globules have completely disappeared, and the honey is then added, to make a mass, which is divided into six-grain pills. Two are given daily. The opiate is thus composed :—

Sarsaparilla, 5 ounces;
Squine, 3 ounces ;
Roasted nut-shells, 1 ounce ;
Allspice, 1 drachm ;
Honey, q. s.

Two to four drachms are given night and morning.

The sudorific drink is made with sarsaparilla and squine. The patient is not allowed to touch any other fluid, but takes one or two quarts of this in the twenty-four hours. The diet is truly a *dry* one. Biscuits, raisins, nuts, dried figs, and roasted almonds ; no other food is allowed. The following order is prescribed for the administration of the remedies : a pill every morning, with a glass of the tisan ; an hour afterwards, the opiate with another glass; in the evening the same routine.

The duration of this treatment varies from thirty to fifty days. The enormous quantity (thirty-six grains) of corrosive sublimate contained in the pills might render us apprehensive of some accidents, if we were not aware that its properties were destroyed by being rubbed up with the metallic mercury. It has never been known to produce any unpleasant effects. However extraordinary this mode of treatment may appear to be, M. Payen, whose account of it we transcribe, assures us that it is regarded, at the Marseilles' Hospital as the most sure and efficacious in all cases where the constitution is deeply affected ; whenever ill-conditioned ulcers exist in the throat, with caries of the bones, &c.; and particularly whenever the ordinary treatment of syphilis has failed.—*London Lancet, from L'Experiénce,* No. 129, 1839.

Salivation produced by Iodide of Potassium.—At a meeting of the Medical Society of London, December 16, 1839, Mr. Crisp, in reference to the discussion at the last meeting, remarked that he had a case under his care, in which most profuse salivation was produced by the iodide of potassium. The patient, a woman, had taken the medicine for two or three months, for the removal of some venereal excrescences, in the neighbourhood of the labia. At the end of the time mentioned, salivation set in, and had continued up to the present time, a period of nearly five years; the quantity of saliva secreted, during the twenty-four hours, was about a quart. It was remarkable, that, on one or two occasions, the secretion had been arrested for a short time, from some unknown cause, and she then immediately experienced an unpleasant feeling in the neighbourhood of the disease, and this continued until the salivation returned. He had tried various remedies, acetate of lead, sulphur, astringents, and small doses of hydrargyrum cum creta among the others, without effect. He had seen another case in which the salivation had resulted from the use of the iodide of potassium; in this case there was not the peculiar fœtor of the breath which accompanied mercurial salivation. In these cases no mercury had been employed, previous to the use of the iodide of potassium. In the first case, small doses had been used previous to the potash, but no salivation had been produced.